

# FACTSHEET



HORTICULTURE

ORDER NO. 07-039

JULY 2007

AGDEX 216



Ontario

Ministry of Agriculture,  
Food and Rural Affairs

## PLUM CULTIVARS — EUROPEAN AND JAPANESE

K. Slingerland, J. Subramanian and B. Lay

(Replaces OMAFRA Factsheet *Plum Cultivars – European and Japanese*, Order No. 02-041)

### INTRODUCTION

This Factsheet provides information that will guide commercial growers in selecting fruit cultivars to plant.

The term “cultivar,” used throughout this Factsheet, is a contraction of “cultivated variety,” replacing the older and confusing term “variety,” which also refers to recognizable types within a species that maintain their distinguishing characteristics in the wild state. A cultivar is any horticulturally recognized and named type or sort that can only be maintained through vegetative propagation or the use of selected breeding lines and seed sources.

### RECOMMENDED PLUM CULTIVARS

Recommended cultivars for European and Japanese plums are listed in order of maturity in two groups in Table 1, *Recommended European and Japanese Plum*. Those listed under “General Planting” are mainly well-known cultivars with proven performance and established market value. Cultivars listed under “Limited Planting” have value, but their planting should be limited for various reasons. Some may have proved valuable in trial plantings and now warrant limited commercial planting. Others may be suitable only for special markets, for example, as early cultivars for roadside sales.

**Table 1.** Recommended European and Japanese Plum

Cultivar	General Planting	Limited Planting
European	Valerie™	Stanley
	Vanette™	Italian
	Valor	Verity
	Victory	Voyageur
	Vision	Veeblue
		Vibrant™
		Violette™
		Damson
	Early Golden	Vanier
	Shiro	Ozark Premier
Japanese		Burbank
		Vampire™

European and Japanese plums are grown in regions of Ontario where winter temperatures are severe enough to cause cold injury to shoots, fruit spurs, trunks and roots. Also, spring frost during bloom is a threat in some regions, more so to Japanese than to European plums. To ensure fruiting, grow plums only in areas with some moderating affect from one of the Great Lakes or on a site with a slope that allows for good air drainage.

### PLUM HARVEST DATES

Harvest dates are an important factor to fruit growers, sales agents, processors and nurserymen. Table 2, *Average First Harvest Dates for European and Japanese Plum*, shows average dates of first commercial harvest of European and Japanese plum cultivars at the University of Guelph, Department of Plant Agriculture, Vineland. These dates are averages of many years of observations. Only the most common cultivars or those of special interest are listed. Throughout the fruit-growing districts of the province, actual harvest dates will differ from those reported at Vineland Station, and there may be minor variation in the sequence of cultivars harvested.

**Table 2.** Average First Harvest Dates  
for European and Japanese Plum

Cultivar	Date	Cultivar	Date
Early Golden*	July 28	Vampire™	Aug. 29
Vibrant™	Aug. 7	Violette™	Sept. 10
Shiro*	Aug. 11	Stanley	Sept. 18
Valerie™	Aug. 14	Valor	Sept. 19
Vanette™	Aug. 17	Damson	Sept. 20
Ozark Premier*	Aug. 26	Victory	Sept. 22
Burbank*	Aug. 29	Italian	Sept. 26
Vanier*	Aug. 29	Vision	Oct. 1

\*Japanese plums

## PLUM POLLINATION

Honeybees, bumblebees and large flies are the major agents responsible for transferring pollen among plum cultivars. The recommended number of beehives for plums is two per hectare in mature orchards. Place the hives in the centre of every 2 hectares when about 30% of the blooms have opened. Face hive openings south for best exposure to the sun and stimulation of bee activity. Since flowers of dandelion and other weeds contain more sugar nectar than plum blossoms, be sure to mow the orchard during the pollination period. Do not spray pesticides in the orchard during the bloom period. Remove the hives from the orchard after completion of pollination to avoid contamination of bees by spray chemicals.

In Ontario, plum orchards should be planted with mixtures of recommended cultivars. The pollinizer (pollen source) cultivar should bloom annually, flower at the same time as the main cultivar and be cross compatible. Choose cultivars that are of commercial importance and suitable for the market requirements of the grower as a pollinizer. Pollinizer cultivars should not be biennial in bearing habit or unusually susceptible to pests, disease or other limitations that might interfere with the pollinizer function.

To provide adequate pollen within the orchard, plant at least every fourth tree location in every fourth row with a pollinizer cultivar that flowers consistently at the same time as the main cultivar.

### European Plum

The results of cross-pollination studies carried out at Vineland during the past several years among various self-unfruitful European plum cultivars are shown in Table 3, *Pollen Compatibility of European Plum Cultivars*. This information will help growers who are planting new European plum orchards to decide on the appropriate combination of cultivars to ensure good pollination and adequate cropping.

For commercial production of European plums, about 5% of the flowers on a tree must set fruit. Damson, Stanley and Voyageur European plum cultivars are self-fruitful and will crop when planted as solid blocks of a single cultivar. However, these cultivars benefit from cross-pollination.

Most European plum cultivars flower at the same time, providing an adequate bloom overlap for effective cross-pollination among them. The long-term data collected at Vineland shows that May 16–19 is the average full-bloom date period among different cultivars. This can vary from year to year under unusual weather conditions.

Most of the pollinizing cultivars in Table 3 are mid-season to late season in flowering. In a warm spring, the total

flowering period of all cultivars will be shortened, and all cultivars may overlap, resulting in very effective cross-pollination. In a cold spring, the whole flowering period is lengthened, and less overlapping will occur. However, there will usually be enough overlap in flowering of the cultivars to bring about some cross-pollination.

**Table 3.** Pollen Compatibility of European Plum Cultivars

Cultivar Pollinated	Valerie	Vanette	Vibrant	Violette	Stanley	Valor	Victory	Italian	Vision
Valerie™	X	✓	✓	✓	✓	✓	✓	✓	✓
Vanette™	X	X	✓	✓	✓	✓	✓	X	✓
Vibrant™	✓	✓	X	NT	✓	✓	✓	✓	✓
Violette	✓	✓	NT	X	✓	✓	✓	✓	✓
Stanley	NT	NT	✓	✓	O	NT	NT	NT	NT
Valor	✓	✓	✓	✓	✓	X	X	✓	X
Victory	✓	✓	✓	✓	✓	✓	X	✓	✓
Italian	✓	✓	✓	✓	NT	NT	NT	OO	NT
Vision	X	X	✓	✓	✓	✓	✓	X	X

✓ – Compatible    X – Incompatible  
O – Self-fruitful    OO – Partially self-fruitful    NT – Not tested

### Japanese Plum

Most recommended Japanese-plum cultivars flower at the same time, and there is often an adequate bloom overlap for effective cross-pollination among cultivars. The long-term data collected at Vineland shows that May 10–13 is the average full-bloom date period among different cultivars. Full-bloom dates, however, are not useful for predicting the exact full-bloom period for this crop from year to year. Japanese plums bloom a week earlier than European. As a general rule, Japanese and European plum cultivars will not pollinate each other.

Myrobalan B, the standard rootstock recommended for plum in Ontario, is a satisfactory pollinizer for all Japanese plum cultivars grown in the province. However, the fruit of Myrobalan B are very small and unsuitable for sale. Myrobalan B can be used as a pollinizer for those wishing to plant a solid orchard of one or two Japanese cultivars. In contrast, Vanier is not only an adequate pollinizer for all the major Japanese plum cultivars but is a satisfactory, late-ripening cultivar as well. Methley is a satisfactory pollinizer for Burbank and Shiro but has little commercial value. Burbank, Early Golden, Ozark Premier, Shiro and Vanier are self-unfruitful and do not set a satisfactory crop with their own pollen. These cultivars must be grown in blocks inter-planted with suitable cultivars as pollinizers.

If cross-pollination is a problem in an established orchard, remove some of the trees and replace with suitable pollinizers, or permit a few suckers of Myrobalan B rootstock to grow to a flowering size to serve as a pollinizer.

An alternative possibility is to top work a sufficient number of trees to the desired pollenizer cultivar.

Table 4, *Pollen Compatibility Among Japanese Plum*, shows the results of cross-compatibility studies carried out at Vineland during the past several years among Japanese plum cultivars. This information will help growers who are planting new orchards of Japanese plums to decide on the appropriate combination of cultivars for pollination purposes.

**Table 4.** Pollen Compatibility Among Japanese Plum

Cultivar Pollinated	Pollen Source						
	Early Golden	Shiro	Ozark Premier	Burbank	Vampire	Vanier	Myrobalan B
Early Golden	X	✓	✓	✓	✓	✓	✓
Shiro	X	X	X	✓	✓	✓	✓
Ozark Premier	X	X	X	X	NT	✓	✓
Burbank	✓	✓	✓	X	NT	✓	✓
Vampire™	X	✓	✓	✓	X	✓	✓
Vanier	X	X	✓	✓	✓	X	✓
✓ – Compatible		X – Incompatible					
O – Self-fruitful		NT – Not tested					

## PLUM CULTIVAR DESCRIPTIONS

Brief descriptions are provided below for the major plum cultivars grown in Ontario and other cultivars that show promise. The descriptions are not intended to be complete but rather to indicate the general characteristics and performance of each cultivar in test plantings and/or commercial orchards in Ontario. Unless otherwise indicated, a cultivar is generally satisfactory in tree growth, hardiness, production and fruit quality characteristics such as size, colour, shape and internal quality.

### European Plum, Named Cultivars

**Damson (Shropshire)** A fine-quality processing plum when properly mature. It is a self-fruitful, prolific cropper, producing small fruit that hang well on the tree. The flavour is very distinctive and is recommended for limited planting for specialty markets. It is reported to adapt well to mechanical harvesting.

**Italian (Fellenberg)** A medium-sized blue plum with good keeping and canning quality. It is less productive than Valor or Stanley. Italian and its sports are not recommended for planting in Ontario.

**Stanley** A medium, dark blue, freestone fruit, oval in shape, with a fairly distinct neck. The flesh is yellow, juicy and of good quality. It is self-fruitful, productive and ripens a week earlier than Italian. In some years, it tends to overbear and will benefit from thinning.

**Valerie™ (formerly V70031)** A Valor x California Blue seedling. It is semi-freestone, medium to large sized violet-blue plum with good flavour. It is the first commercial European plum ripening about August 14 at Vineland. Self-unfruitful, it is pollinated by Stanley, Valor, Vanette, Veeblue, Verity, Victory, Vision and Voyageur.

**Valor** A medium to large, violet-blue, semi-freestone plum of excellent quality. Valor ripens just ahead of Italian but is larger, much more productive and comes into bearing earlier than Italian. It is recommended as a fresh market cultivar.

**Vanette™ (formerly V66071)** An Early Rivers x Stanley seedling. This is a freestone, medium-large sized, ovate-shaped, purple-blue plum of good quality. It ripens about August 17 at Vineland, three days after Valerie. It is self-unfruitful, very productive and pollinated by Stanley, Valor, Veeblue, Verity, Victory, Vision and Voyageur.

**Vibrant™ NEW (formerly V70034)** An early variety with a violet-blue skin and excellent bloom at maturity. The flesh is amber coloured and has a semi-freestone.

**Victory** This large, attractive, heart-shaped, productive semi-freestone fruit is dark violet-blue with greenish, yellow flesh. It is firm, good quality and ripens five days after Stanley. It is recommended as a fresh market cultivar.

**Violette™ NEW (formerly V72511)** A mid-season variety with large oblong fruits. It has bluish-black skin with moderate bloom. The flesh is yellow-green coloured and has a semi-freestone. This variety is rich in total antioxidants.

**Vision** This late-maturing plum is a large, oblong-shaped, dark blue freestone fruit of excellent quality. It ripens about October 1 at Vineland.

### Japanese Plum, Named Cultivars

**Burbank** The seed producing the cultivar Burbank was received from Japan in 1883 by Luther Burbank, who made this selection, which the U.S. Department of Agriculture named after him in 1887. This good-quality plum is round, dark red, medium-sized, juicy, aromatic and clingstone. It ripens unevenly, beginning in late August at Vineland.

**Early Golden** A round, golden, freestone plum with high red blush. It is firm and of good quality. While not as large as Shiro, the cultivar ripens 10–14 days earlier. Trees are very vigorous, outgrowing other plum cultivars. It has a biennial fruiting habit but can be eliminated with proper thinning and irrigation.

**Ozark Premier** A large, round, bright red, firm, aromatic clingstone of excellent quality. It ripens unevenly, in the same season as Burbank and Vanier.

**Shiro** A round, yellow plum with a pink blush. It is very juicy, clingstone and fair in quality. It ripens 2 weeks after Early Golden.

**Vampire™ NEW (formerly V82053)** A late mid-season plum with medium-large fruits. It has an attractive blend of shiny green and ruby red skin. The flesh is red and very juicy. Exhibits more cold tolerance than any other red-fleshed plum here.

**Vanier** A medium-sized, bright red clingstone with yellow flesh, maturing 2 weeks later than Shiro. The quality is good, firm, meaty and improves after fruit are picked and stored for 2–3 weeks. Trees are precocious, vigorous and have an upright growth habit. Best fruit quality is obtained through multiple picks.

### PLUM ROOTSTOCKS

**Myrobalan Seedling** has been used as the principal rootstock for Japanese (*Prunus salicina*) and European (*Prunus domestica*) plums in Ontario. There is significant variability in size and performance among trees grown on Myrobalan rootstocks started from seed.

**Myrobalan B** A clonal selection of Myrobalan plum introduced by the East Mailing Research Station in England around 1920. It is a very vigorous rootstock and is propagated vegetatively by hardwood cuttings. It has proven to be as productive as other rootstocks, such as Brompton or St. Julien A, with most European and Japanese plum cultivars in tests at Vineland. Because of its genetic uniformity, trees on Myrobalan B are uniform in size and performance in the orchard. For this reason, the clonal Myrobalan B is superior to Myrobalan seedling rootstocks and is the preferred plum rootstock for use in Ontario.

**Brompton** A clonal European plum rootstock (*Prunus domestica*) similar to Myrobalan B. At Vineland, this rootstock has substantially reduced the tree size of Japanese plum cultivars compared to trees grown on Myrobalan B.

**Other Prunus Rootstocks** In the past, seedlings of peach (*Prunus persica*), almond (*Prunus dulcis*), apricot (*Prunus armeniaca*) and American plum (*Prunus americana*) have been used as rootstocks for European and Japanese plums. The use of peach and American plum seedlings has been responsible for scion rootstock incompatibility problems that have caused tree losses in some plum orchards. Research at Vineland has shown that peach is not a satisfactory rootstock for plum. Peach, almond, apricot and American plum seedlings are not recommended for use as plum rootstocks in Ontario.

### FOR MORE INFORMATION

To view photographs of a selection of the cultivars listed in this Factsheet, as well as other tender fruits, visit the "Tender Fruit Photo Gallery" on the OMAFRA website at [ontario.ca/crops](http://ontario.ca/crops).

Recommendations for planting cultivars and adapted areas within the province have been determined by the University of Guelph, Department of Plant Agriculture, Vineland; Agriculture and Agri-Food Canada (AAFC); and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). Valuable assistance was provided in consultation with growers, shipper/dealers, nurseries, processors and the Ontario Tender Fruit Producers' Marketing Board (OTFPMB).

This Factsheet was compiled and edited by Ken Slingerland, OMAFRA, Vineland, and Jayasankar Subramanian and Bill Lay, Department of Plant Agriculture, University of Guelph. The authors gratefully acknowledge the following individuals and associations for their written contributions and/or for their assistance in reviewing this Factsheet: Mori Nurseries and Adrian Huisman, Ontario Tender Fruit Producers' Marketing Board.

---

Agricultural Information Contact Centre  
1-877-424-1300  
[ag.info.omafra@ontario.ca](mailto:ag.info.omafra@ontario.ca)

[www.ontario.ca/omafra](http://www.ontario.ca/omafra)

---

POD  
ISSN 1198-712X  
Également disponible en français  
(commande n° 07-040)

